**The University of Illinois and Engineering**

Anne Tracy
Washington Gifted School, Peoria
Teachers: Janelle Dies and Mindy Juriga

John Milton Gregory, the first President of the University of Illinois, once said, "Let us educate for life, as well as for art, leaving genius free to follow its natural attractions and lending in talent a culture fitting for all emergencies of public or private duty". When the University of Illinois opened, it made history by being the first big university in downstate Illinois. It is now a focal point of Illinois education, all the while keeping Gregory's ideal to educate not only for business, but for life. This philosophy has led to excellence, specifically excellence at the College of Engineering at the University of Illinois. This has made Illinois a power house in engineering and changed Illinois' history for the better. Significant technological advances have been made, with local and national affects.

In 1867, the Illinois Industrial College was founded. Its name was changed to the University of Illinois in 1885. Lawmakers wanted downstate Illinois to become more industry and business-oriented; hence, they chose a campus in Champaign. Initially, the Industrial College was only in session during the winter months so farmers could attend. Scholarships were given from the very beginning. The original plans were to teach only agriculture, science, languages, and instruct in mechanical arts. After taking the required courses, students were awarded degrees.

The College of Engineering was opened in 1867, at the same time the University opened. The College of Engineering was originally named the Polytechnic Department. At the Polytechnic Department, students were required to take algebra, geometry,

trigonometry, calculus and languages. In 1880, The University had 434 full time students and seventeen full time teachers. These numbers were impressive in the nineteenth century, creating a name for education in downstate Illinois. Today, the University of Illinois educates almost 40,000 students a year and has 10,000 faculty members. Respectably, $2,500,000 from external funding has been used for research.

The College of Engineering at the University of Illinois has been repeatedly declared one of America's top schools. It is fourth out of 300 in its graduate and undergraduate programs. It consistently gets ranked in the top four because of the combination of its resources, breadth, quality, and collegiality of the staff and students. The faculty of the College of Engineering is highly accomplished and recognized. There are two Nobel Laureates, a National Medal of Technology recipient, and many others currently among the staff. Some outstanding professors include Professor Floyd Dunn, Professor Paul Mayes, Professor Yuen Tze Lo, and Professor Donald Blitzer. The most influential professor was probably Professor John Bardeen, a two-time Nobel Laureate and an inventor of the transistor.

The College of Engineering prepares students for jobs in engineering and related fields in industry, commerce, education, and government by teaching skills like communication, teamwork, and individual professionalism. To support students in their journey through the College of Engineering, many high tech educational centers have been built. In 2004, the most successful and extensive center for learning, the Thomas M. Siebel Center (Department) opened. The Micro and Nanotechnology Laboratory advances education and research in microelectronics, photonics, biotechnology, and

nanotechnology. TMSC is always taking on a new project of research or learning in the engineering world.

The University of Illinois has many supporters and funding for its research and projects. The Caterpillar Company, in Peoria, is a Corporate Partner of the College of Engineering. The Grainger Engineering Library Information Center, the National Supercomputation Applications and the Beckman Institute for Advanced Science and Technology make significant financial contributions.

The College of Engineering recently added some pro-market policies. A disagreement occurred between the University of Illinois and Netscape over code writing. Netscape offered financial reimbursement, but the school did not have appropriate policies in place and was unable to accept it. With new policies in place, Netscape has made payments totaling in $270,000,000. The University of Illinois now also receives money from licensing use of *Mosiac,* the first graphical World Wide Web browser, created at the University. The policies have helped other up and coming inventors at the College of Engineering. Ping Fu is the creator of Alpha Shapes, a program that lets users make 3-D prototypes of cars, funded by General Motors and Boeing. Robin Bargar is the co-creator of a software program that works with sound quality, appealing to multimedia and computer gaming markets. Montage is another program that makes a collaborative world environment. Both have commercial marketing possibilities. Not everyone is happy, though. Tim Krauskopf, a programmer at the university, thinks it is a bad idea because the large payoff from big companies could distract from the University of Illinois' pursuit of excellence academically. However, having the policies is a good idea because it allows even more productive research to be done that would otherwise lack

funding. Without them, the university might not have had such an important influence on Illinois history.

One particular milestone was the building of the Ordinance Variable Automated Computer and the Illinois Automated Computer. Funding for the construction of the computers came from the United States Army and the University of Illinois. The Digital Computer Laboratory was formed specifically for the construction in 1949. ORDVAC was completed in 1951 and ILLIAC was completed in 1952. ILLIAC II, a more advanced computer, was built in 1962. Used by Professor Donald B. Giles in 1963, he discovered three Mersenne Prime numbers, one being 3,000 plus digits and the biggest known prime number at that time. The ILLIAC II was a transistorized computer, and they continue up to ILLIAC IV.

Because of the College of Engineering at the University of Illinois, significant technological advances have made Illinois a powerhouse in engineering and innovation, helping Urbana-Champaign become one of the most innovative "tech cities" and attracting seventy high tech companies. Engineering brings in money, innovations, and business to the state, influencing yesterday and today's economy throughout Illinois. The history of Illinois would be greatly different without the help of education and engineering at the University of Illinois. [From "Department of Computer Science," University of Illinoishttp://www.cs.uiuc.edu.php (Sept. 3, 2005); . "Engineering at Illinois" http://www.engr.uiuc.edu (Sept. 6, 2005); Kevin Horan, "Diplomas and Dollars." U.S. News & World Report, Feb. 5, 1995; Henry C.

Johnson and Erwin V. Johanningmeir, Teachers for the Prairie; Harry A. Kersey, John Milton Gregory and the University of Illinois; "Electrical and Computer Engineering" Computer Engineering (1999). ]